Materials Engineering Branch

TIP*

No. 063 Bagging Materials Precautions

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There is no single bagging or packaging film material that satisfies every user's needs. Some of the possible problems with the use of this type of material were addressed in Materials TIP 015.

Most users of these films choose the antistatic type whether they need this quality or not, probably to avoid stocking different types and to prevent static problems in some unexpected instances. Most, if not all, antistatic agents must be on the outer surface of the film to be effective and most of these are different materials from that of the basic film.

The antistatic agent may be an oily liquid or perhaps a solid material, greasy or waxy in nature. These types of agents usually function as a result of their ability to retain water and this, of course, is dependent upon the relative humidity of the ambient environment at any particular time. The potential problem with these agents is their volatility at normal room conditions and/or in the space environment. Even if they are not very volatile under these conditions, these agents can be transferred to the hardware through physical contact. Some products may even possess both shortcomings.

Other plastic films contain a layer of graphite, nickel, aluminum or indium tin oxide (ITO) incorporated in one of several ways to achieve antistatic properties. Whichever of these configurations are used, they may pose a potential problem from particulate contamination. This could be particularly true if the film is flexed or crinkled numerous times or perhaps cut to size or shape. Cleaning this type of film could be helpful in preventing problems.

The user of the protective film materials must ultimately choose the type of film that will best fill the need, taking into account the type of contamination that might be most or least detrimental in a particular instance. Over the lifetime of the protective film, the conductivity should be checked periodically as it is subject to change (reduction) over time.

First Issued: November 1984
Date Revised: September 2002